DATASHEET - PFIM-100/4/03



Residual current circuit breaker (RCCB), 100A, 4p, 300mA, type AC



PFIM-100/4/03 102825



Delivery program

Basic function			Residual current circuit-breakers
Number of poles			4 pole
Application			Residual current circuit-breaker for residential and commercial applications
Rated current	In	Α	100
Rated short-circuit strength	l _{cn}	kA	10
Rated fault current	I _{ΔN}	А	0.3
Туре			Туре АС
Tripping		s	non-delayed
Product range			PFIM
Sensitivity			AC current sensitive
Impulse withstand current			Partly surge-proof 250 A

Technical data

Electrical			
Standards			IEC/EN 61008
Rated operational voltage	U _e	V	
	Ue	V AC	
Rated operating voltage	U _e	V AC	230/400
Rated frequency	f	Hz	50
Limit values of the operating voltage			
Test circuit		V AC	196 - 456
Sensitivity			AC current sensitive
Rated insulation voltage	Ui	V	440
Rated impulse withstand voltage	U _{imp}	kV	4
Rated short-circuit strength	I _{cn}	kA	10
Rated making and breaking capacity / Rated residual making and breaking capacity	$I_m / I_{\Delta m}$	A	1000
lifespan			
Electrical	Operations		≧ 4000
Mechanical	Operations		≧ 20000
References			
Auxiliary switch for subsequent installation			Z-HK 248432
Tripping signal contact for subsequent installation			Z-NHK 248434
Remote control and automatic switching device			Z-FW/LP 248296
Compact enclosure			KLV-TC-4 276241
Sealing cover set			Z-RC/AK-4MU 101062
Mechanical			
Standard front dimension		mm	45
Device height		mm	80
Built-in width		mm	70 (4TE)
Mounting			Quick attachment with 2 latch positions for DIN-rail IEC/EN 60715
Degree of Protection			IP40, IP54 (with moisture-proof enclosure)
Terminals top and bottom			Open mouthed/lift terminals
Terminal protection			DGUV VS3, EN 50274
Terminal cross-section			
Solid		mm ²	1.5 - 35
Stranded		mm ²	2 x 16

Thickness of busbar material	mm	0.8 - 2
Permissible storage and transport temperatures	°C	-35 - +60
Climatic proofing		25-55°C/90-95% relative humidity according to IEC 60068-2
Thickness of busbar material	mm	
Material thickness	mm	0.8 - 2

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	А	100
Heat dissipation per pole, current-dependent	P _{vid}	W	0
Equipment heat dissipation, current-dependent	P _{vid}	W	18.8
Static heat dissipation, non-current-dependent	P _{vs}	W	0
Heat dissipation capacity	P _{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	60
			Starting at 40 °C, the max. permissible continuous current decreases by 1.2% for every 1 °C
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions			Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances			Meets the product standard's requirements.
10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections			Is the panel builder's responsibility.
10.8 Connections for external conductors			Is the panel builder's responsibility.
10.9 Insulation properties			
10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage			Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material			Is the panel builder's responsibility.
10.10 Temperature rise			The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function			The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 7.0

Circuit breakers and fuses (EG000020) / Residual current circuit breaker (RCCB) (EC000003)

Electric engineering, automation, process control engineering / Electrical installation, device / Residual current protection system / Residual current circuit breaker (RCCB) (ecl@ss10.0.1-27-14-22-01 [AAB906014])

Number of poles		4
Rated voltage	V	400
Rated current	А	100
Rated fault current	mA	300
Rated insulation voltage Ui	V	440
Rated impulse withstand voltage Uimp	kV	4
Mounting method		DIN rail

Automation No Selective protection No Short-time delayed tripping No Short-circuit breaking capacity (low) KA 0 Surge current capacity KA 025 requency Surge current possible Surge current possible Vith interlocking device Surge current capacity Surge current possible Vith interlocking device Surge current possible Surge current possible Vith interlocking device Surge current possible Surge current possible Vith interlocking device Surge current possible Surge current possible Vith interlocking device Surge current possible Surge current possible Vith interlocking device Surge current possible Surge current possible Vith interlocking device Surge current possible Surge current possible Vith interlocking device Surge current possible Surge current possible Vith interlocking device Surge current possible Surge current possible Surge current possible Surge current possible Surge current possible Vith in number of modular spacings Surge current possible Surge current possible Surge current possible Surge current possible Surge current possible Surge current possible Surge			
And the delayed tripping No Short-time delayed tripping KA Short-circuit breaking capacity (Icw) KA Surge current capacity KA Stripping KA Stripping Short-circuit breaking capacity (Icw) Stripping KA Stripping Short-circuit breaking capacity (Icw) Stripping KA Stripping Short-circuit breaking capacity (Icw) Stripping Short-circuit breaking capacity Stripping Short-ci	Leakage current type		AC
short-circuit breaking capacity (lcw) kA 0 Surge current capacity kA 0.5 requency 0.12 0.12 Additional equipment possible 6 6 7 Vith interlocking device 6 6 7 Degree of protection (IP) 6 6 7 With in number of modular spacings 6 7 7 Built-in depth mm 7.5 7.5 Pollution degree °C 2 5.4 Pollution degree °C 2 5.4 Pollution degree °C 5.4 5.4 Pollution degree 6 6 7 6 Pollution degree °C 5.4 5.4 5.4 Pollution degree 6 mm 5.4 5.4 5.4 Pollution degree mm 5.1 5.1 5.1 5.1	Selective protection		No
Surge current capacity KA 0.25 Frequency 50 Hz 50 Hz Additional equipment possible Yes Yes Vith interlocking device Yes Yes Degree of protection (IP) IP20 Yes With in number of modular spacings Main 7.5 Suit-in depth mm 7.5 Ambient temperature during operating IC Yes Pollution degree °C 2.5 Pollution degree mm 7.5 Pollution degree mm ² 1.5	Short-time delayed tripping		No
irequency 50 Hz Additional equipment possible Yes Vith interlocking device Yes Degree of protection (IP) IP20 With in number of modular spacings mm Built-in depth mm Pollution degree 25 40 Pollution degree imman Sould construction multi-wired mm Pollution degree imman Sould construction multi-wired mm Pollution degree imman Sould construction multi-wired mm Pollution degree imman Pollution	Short-circuit breaking capacity (Icw)	kA	10
Additional equipment possible Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye	Surge current capacity	kA	0.25
Number of modular spacings Mes Vidth in number of modular spacings Mes Built-in depth mm Pollution degree 25 - 40 Pollution degree mm ² Sconectable conductor cross section multi-wired mm ²	Frequency		50 Hz
Degree of protection (IP) IP20 Vidth in number of modular spacings 4 Built-in depth mm 70.5 Ambient temperature during operating °C 25 - 40 Pollution degree mm ² 15 - 16	Additional equipment possible		Yes
Width in number of modular spacings mm 4 Built-in depth mm 70.5 Ambient temperature during operating °C -25 - 40 Pollution degree 2 Connectable conductor cross section multi-wired mm² 1.5 - 16	With interlocking device		Yes
Built-in depth mm 70.5 Ambient temperature during operating °C -25 - 40 Pollution degree 2 Connectable conductor cross section multi-wired mm² 1.5 - 16	Degree of protection (IP)		IP20
Ambient temperature during operating °C -25 - 40 Pollution degree 2 Connectable conductor cross section multi-wired mm² 1.5 - 16	Width in number of modular spacings		4
Pollution degree 2 Connectable conductor cross section multi-wired mm ²	Built-in depth	mm	70.5
Connectable conductor cross section multi-wired mm ² 1.5 - 16	Ambient temperature during operating	°C	-25 - 40
	Pollution degree		2
Connectable conductor cross section solid-core mm ² 1.5 - 35	Connectable conductor cross section multi-wired	mm²	1.5 - 16
	Connectable conductor cross section solid-core	mm²	1.5 - 35